

Material safety data

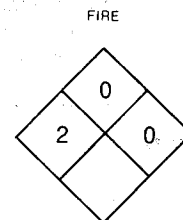
NFPA Designation 704

Phosphoric Acid (70-85%)

HAZARD RATING:

4 = EXTREME
3 = HIGH
2 = MODERATE
1 = SLIGHT
0 = INSIGNIFICANT

HEALTH



REACTIVITY

SPECIFIC
HAZARD

Emergency telephone (415) 793-1230 Newark, CA
(913) 843-3880 Lawrence, KS
(201) 541-4171 Carteret, NJ

Product Information	Synonyms	Orthophosphoric Acid, Monophosphoric Acid		
	Shipping name	DOT	Phosphoric Acid	
		IATA	Phosphoric Acid	
		IMCO	Phosphoric Acid	
	Formula	H ₃ PO ₄	Chemical Family	Phosphate

Ingredients	Material or component	%	CAS #	Hazard Class
	Phosphoric Acid Water	70-85 bal	7664-38-2	Corrosive

Physical data	Melting point	-17.5° C for 75%; +21° C for 85%	Specific Gravity (H ₂ O = 1)	1.5-1.7
	Boiling point	130-158° C	Solubility in H ₂ O, % by WT	Infinite
	Vapor pressure	Non-volatile	% Volatiles by Volume	Non-volatile
	Vapor Density (Air - 1)	Non-volatile	Evaporation rate (butyl acetate = 1)	Non-volatile
	Room temperature: appearance & state	Clear, colorless liquid	pH (as is)	About 1.5
	Odor	None	pH (1% solution)	1.7

Fire, explosion and reactivity data	Flash point Non-flammable		Flammable Limits (air)	Upper NA		
	Autoignition temp. Non-combustible			Lower NA		
	Extinguishing media <input type="checkbox"/> Water <input type="checkbox"/> Water Fog <input type="checkbox"/> CO ₂ <input type="checkbox"/> Dry Chemical <input type="checkbox"/> Other NA					
	Special fire fighting procedures		Use full protective clothing and self contained breathing apparatus. Thermal decomposition emits toxic fumes of oxides of phosphorus.			
	Degree of fire and explosion hazard None					
	<input checked="" type="checkbox"/> Stable <input type="checkbox"/> Unstable		Hazardous Polymerization		<input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will Not Occur	
	Conditions to Avoid					
	Major contaminates that may contribute to instability		Reaction with reactive metals may produce flammable/explosive hydrogen—air mixtures.			
	Incompatibility		Reactive metals (e.g. mild steel and aluminum), bases.			
	Hazardous decomposition products		At flame temperatures, will emit toxic phosphorus oxide fumes.			

*NA — Not applicable

Health hazard
information

Phosphoric acid is the least corrosive of the common mineral acids. It is completely and readily soluble in water. If exposed areas are flushed promptly and thoroughly with water, there should be no harm. Longer term exposure may lead to rash or burns.

Routes of exposure	Route	Hazard classification NIOSH 1974 Pb-246698	Source	Date
	Inhalation	Severe irritant	FMC	
	Skin contact	Mild to severe irritant	FMC	
	Skin absorption	None	FMC	
	Eye contact	Chemical burn likely	FMC	
	Ingestion	Slightly toxic	FMC	

Effects of Overexposure	Acute exposure Irritant, slightly toxic when inhaled or ingested.
	Chronic exposure Slightly toxic with repeated inhalation or ingestion. Causes burns to exposed tissue.

Emergency and first aid procedures	Eyes Flush with copious water for at least 15 minutes. If irritation persists, obtain medical attention.
	Skin Wash off with water. If irritation persists, obtain medical attention.
	Inhalation Remove from exposure. If breathing is difficult or discomfort persists, obtain medical attention.
	Ingestion Rinse mouth with water; give copious water to cause dilution in stomach. DO NOT CAUSE VOMITING.
	Decontamination procedures Wash with copious water.
	Notes to physician <p>Moderately corrosive agent which may burn any exposed tissues upon other than very brief contact. Eyes, skin and mucous membranes should be flushed thoroughly with water, and ophthalmologic consultation should be obtained for any corneal burns.</p> <p>In cases of ingestion, immediate dilution with water, milk or demulcents is worthwhile, but attempts to neutralize with a base should be avoided because of excessive gas and heat formation, which may increase the threat of esophagogastric perforation. Vomiting and diarrhea (laxative effect of phosphates) are expected with large doses. Parenteral fluid administration may be needed if losses therefrom are severe, or shock ensues. Supportive care may be needed for such other complications as glottal edema, hematemesis and perforation (unlikely). Induced vomiting should be avoided because local tissue injury may be aggravated, but the patient should be watched for hyperphosphatemia and hypocalcemia. Milk or other demulcents may be worthwhile for gastric irritation.</p>



Special protection information	Ventilation requirements No special requirement.
	Recommended personal protective equipment: Protect eyes and skin from contact.
	Respiratory (Specify conditions) For severe vapor or mist use NIOSH certified self contained breathing apparatus.
	Eyes Acid goggles.
	Gloves Rubber or neoprene.
	Special clothing and equipment Where contact is likely, rubber apron and boots.

Precautionary statement	Corrosive to mild steel and aluminum equipment.
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Storage and handling	Store in cool, dry, well ventilated location. Store in suitable containers (e.g. glass, fiberglass, reinforced plastic, polyethylene lined drums, type 316 stainless steel, etc.).
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Disposal, spill or leak procedures	Aquatic toxicity classification NIOSH RTECS No. 79-100	TLm 96: 100-1000 ppm. Practically non-toxic.	Source Registry of Toxic Effects of Chemical Substances	Date 1979
	Procedure for release or spill Dike and neutralize.			
	Waste disposal method Dispose according to environmental regulations. After neutralization, landfill should normally be suitable.			
	Neutralizing chemicals Lime, Soda Ash.			

Transportation data	Chemtrec Emergency Telephone: (800) 424-9300	
	Proper shipping name	Phosphoric Acid
	DOT classification	Corrosive Material
	DOT labels	Corrosive
	DOT marking	Phosphoric Acid
	DOT placard	Corrosive
	UN number	UN 1805
	Hazardous substance/RQ	5000 lbs
	49 STCC number	4930248
	Emergency accident precautions and procedures	
	Precautions to be taken in transportation	
	CMA chemcard number	
	Type packages	Bulk; various drums.

Additional regulatory concerns	Material is reported in EPA TSCA inventory list <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No 1979		
	EPA FDA	Hazardous substances list GRAS list, permitted in food	40 CFR 116.4

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